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FIG.1

0 ND FILTER

PHYSICAL
THICKNESS (nm)

6 ~	SiO ₂	78
5 ~	Ti, TiO ₂ , Ti ₂ O ₃ , TiO, TiN	25
4 ~	SiO ₂	51
3 ~	Ti, TiO ₂ , Ti ₂ O ₃ , TiO, TiN	28
2 ~	SiO ₂	59
1 ~	SUBSTRATE ; PET	0.1 (mm)

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FIG. 2

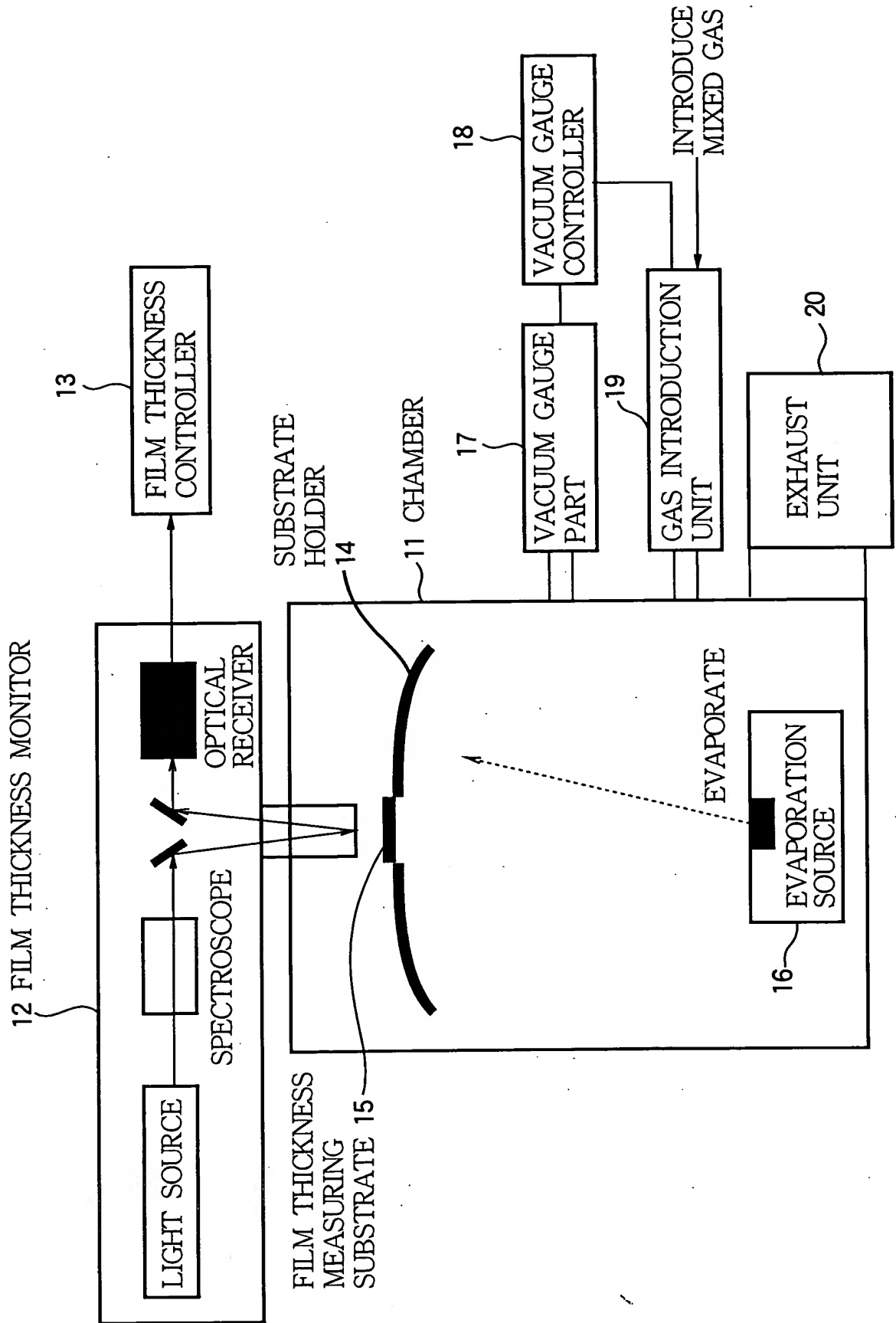


FIG.3

SUBSTRATE TEMPERATURE		100°C	
ULTIMATE VACUUM DEGREE		1×10^{-3} Pa	
FILM FORMATION CONDITIONS	Ti	DEPOSITION RATE	0.5~1nm/sec
		DEPOSITION VACUUM DEGREE	$3 \sim 4 \times 10^{-3}$ Pa
		INTRODUCED GAS	Air (N2 : O2=4 : 1)
	SiO2	DEPOSITION RATE	0.5~1nm/sec
		INTRODUCED GAS	—

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FIG.4

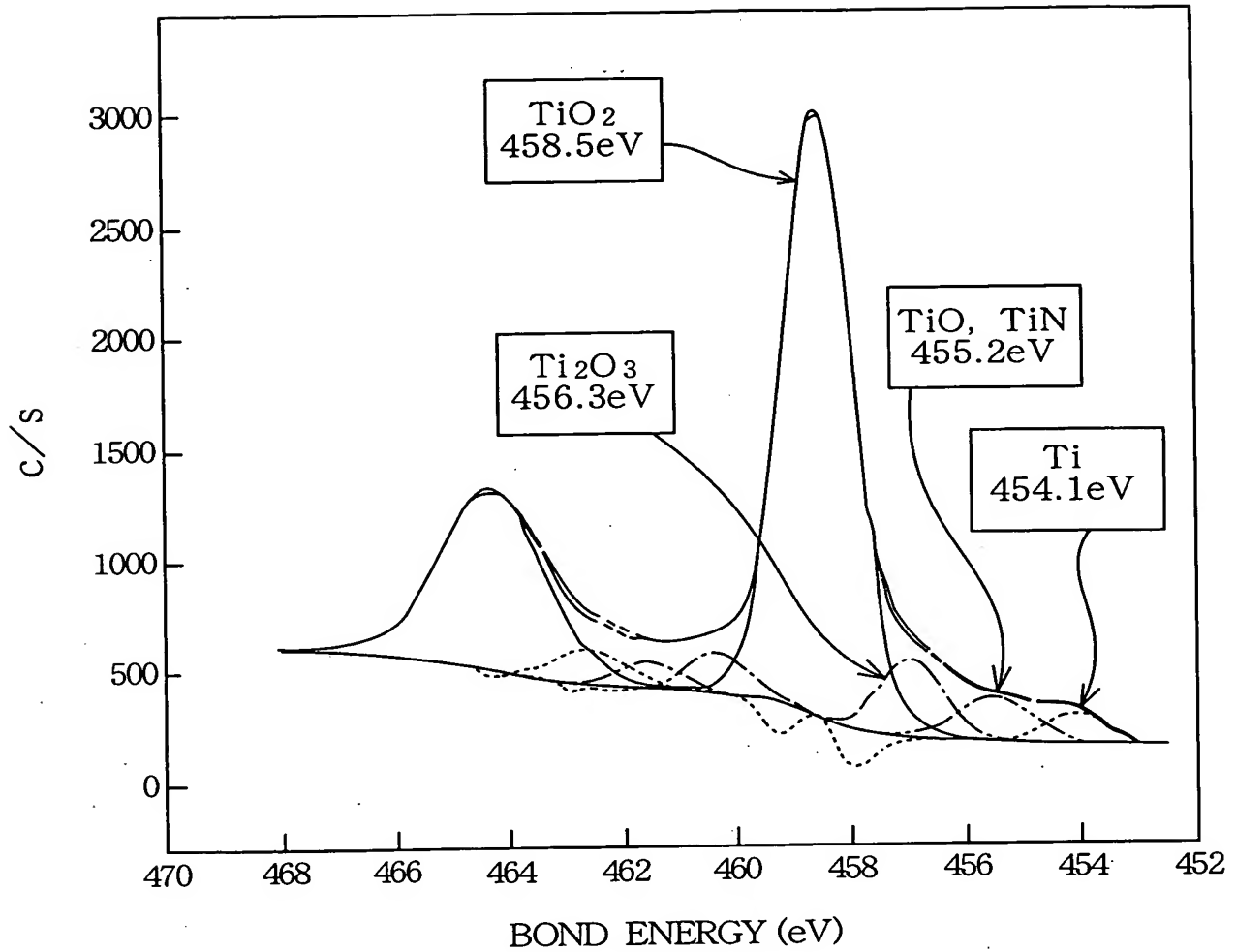


FIG.5

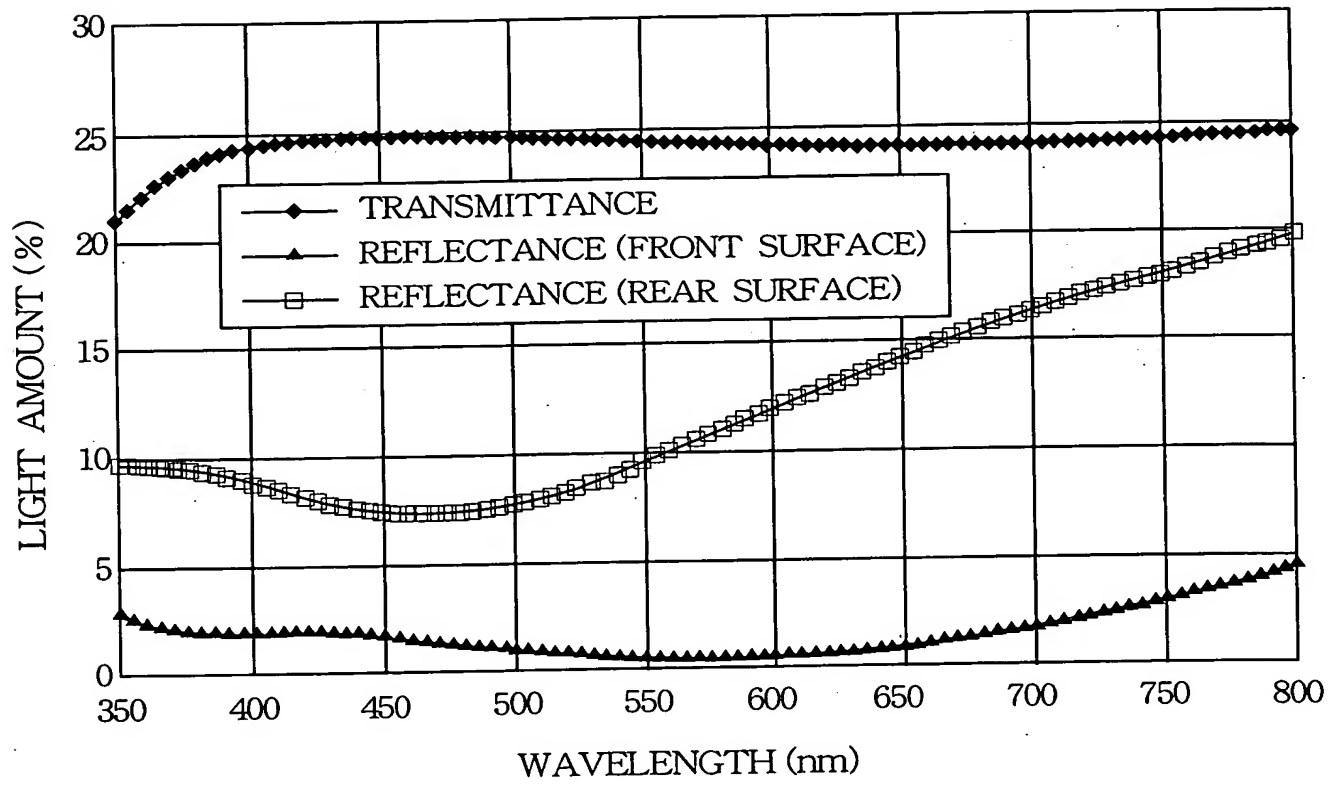
	Ti (METAL)	TiO or TiN	Ti ₂ O ₃	TiO ₂
ENERGY (eV)	454.1	455.2	456.7	458.5
PROPORTION (%)	5%	5%	10%	80%

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FIG.6

	C	N	O	Ti
PROPORTION(%)	(16.5%)	2.8%	53.8%	27.5%

FIG.7



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FIG.8

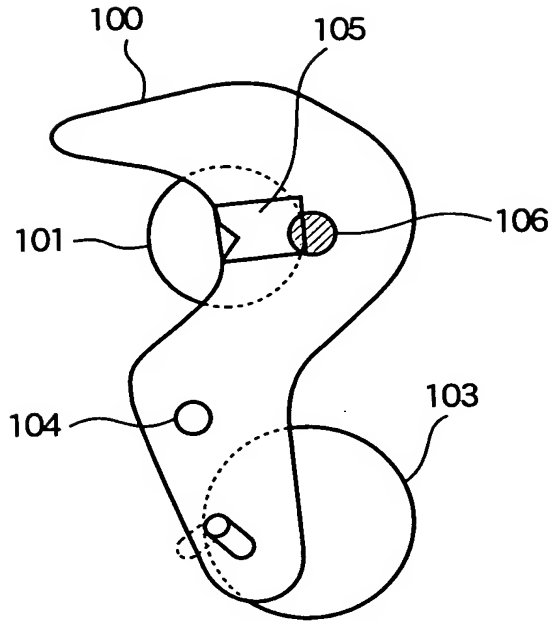
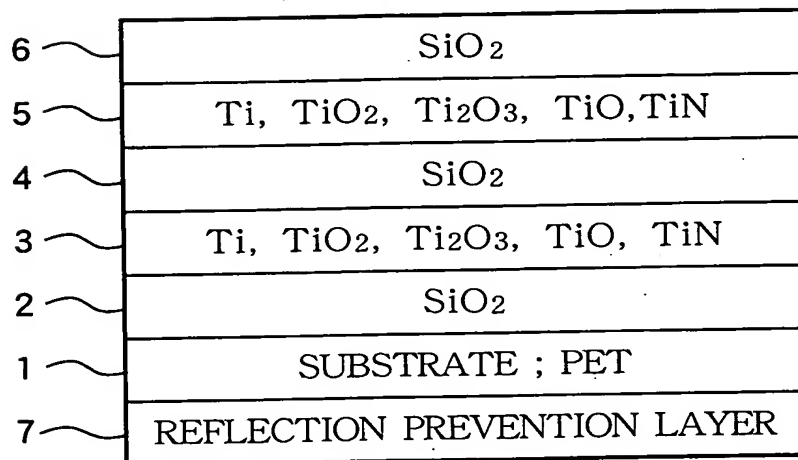


FIG.9

0 ND FILTER



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FIG. 10

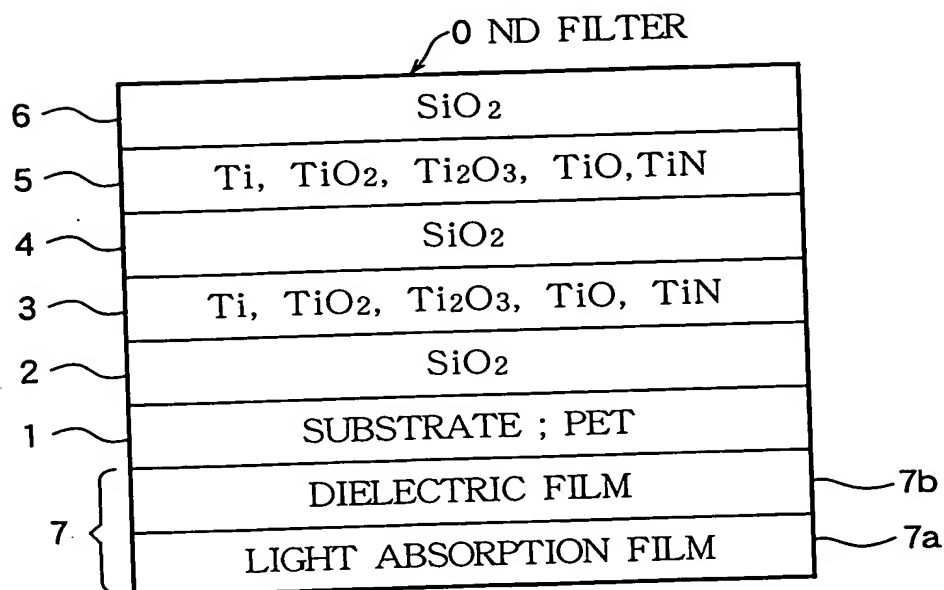


FIG. 11

